1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DYNAMICS OF STREPTOMYCIN PENETRATION THROUGH INFLAMMATION CHANGED TISSUE BARRIERS IN PATIENTS WITH LUNG TUBERCULOSIS -U-

AUTHOR-(02)-KARACHUNSKIY, M.A., DOROZHKOVA, I.R.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 557-561

DATE PUBLISHED--------70

SUBJECT AREAS--BICLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STREPTOMYCIN, TUBERCULOSIS, BLOOD SERUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1840 STEP NO--UR/0297/70/015/006/0557/0561

CIRC ACCESSION NO--AP0125451

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125451

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STREPTOMYCIN PENETRATION WAS STUDIED WITH THE METHOD OF KANTARIDIN BLADDER MODIFIED BY BARTELHEIMER IN 31 PATIENTS SUFFERING FROM THE LUNG TUBERCULOSIS. THE ABSOLUTE CONTENT OF STREPTOMYCIN IN THE BLOOD SERUM DID NOT DEPEND ON THE PROCESS PHASE AND WAS THE SAME IN VARIOUS GROUPS OF THE PATIENTS, WHILE THE PEAK OF THE DRUG LEVEL IN CASES WITH THE PROCESS OUTBREAK WAS OBSERVED EARLIER (IN 1 TO 1.5 HORUS), THAN IN CASES WITH FADING PROCESS (IN 2 HOURS). STREPTOMYCIN LEVELS IN THE FILTRATE AND THE COEFFICIENTS OF THE DRUG PENETRATION WERE MUCH HIGHER DURING THE WHOLE PERIOD OF OBSERVATION IN CASES WITH THE PROCESS OUTBREAK. THE PENETRATION COEFFICIENTS UNDERWENT REGULAR CHANGES DURING THE STUDY. AT FIRST THEY INCREASED SIMULTANEOUSLY WITH THE RISE IN STREPTOMYCIN BLOOD LEVELS AND THEN GRADUALLY DECREASED. THE DATA MAY BE INDICATIVE OF DECREASED PERMEABILITY OF THE TISSUE BARRIERS FOR STREPTOMYCIN IN PATIENTS WITH RESOLVING AND FADING INFLAMMATION CHANGES. THIS REQUIRES THE NECESSARY USE OF THE TREATMENT METHODS DIRECTED TO AN INCREASE OF THE DRUG PERMEABILITY TO THE DISEASE FOCI. FACILITY: CENTRAL INSTITUTE FOR TUBERCULOSIS OF THE USSR MINISTRY OF PUBLIC HEALTH, MOSCOW.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SPECTROPHOTOMETRIC STUDY OF THE REACTION OF BISMUTH WITH METHYLTHYMOL BLUE -U-

AUTHOR-(03)-KARADAKOV, B., NENOVA, P., KANCHEVA, D.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(2) 417-23

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, BISMUTH, CHEMICAL INDICATOR, METAL COMPLEX COMPOUND, CHEMICAL STABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0777 STEP NO--UR/0078/70/015/002/0417/0423

CIRC ACCESSION NO--AP0104223

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104223

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY CONFIRMED THAT BI (III) FORMS WITH METHYLTHYMOL BLUE (H SUB6 R) 2 COMPLEXES, (BI(H SUB3 R)) (I) AND (BI(H SUB4 R) SUB2) PRIME NEGATIVE (II). STABILITY CONSTS. (BETA) FOR I ARE: LOG BETA SUB11 EQUALS 12.49 AND LOG BETA SUB131 EQUALS 44.65 AND FOR II LOB BETA SUB12 EQUALS 5.60.

UNCLASSIFIED

AA0044237

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 2/70

243096 IMAGE CONVERTER TUBE has between a collector and a screen a concentric arrangement of channel multipliers coaxially with the cylindrical surface of the shell. Their ends are cut to a chamfer of 45° with the centre line of the tube where they face the screen disc which has an anisotropic conductivity. The beneficial effect is that the electrons from the electron gun are prevented from describing a straight-through transit across the multiplier.

8.8.67 as 1177867/26-25. L.M. DUN et al. (16.9.69)
Bul 16/5.5.69. Class 21g. Int.Cl. H 01 j.

AUTHORS: Dun, L. M., Oshchepkov, P. K., Karadzhali, R. M., Rozin, N. S.

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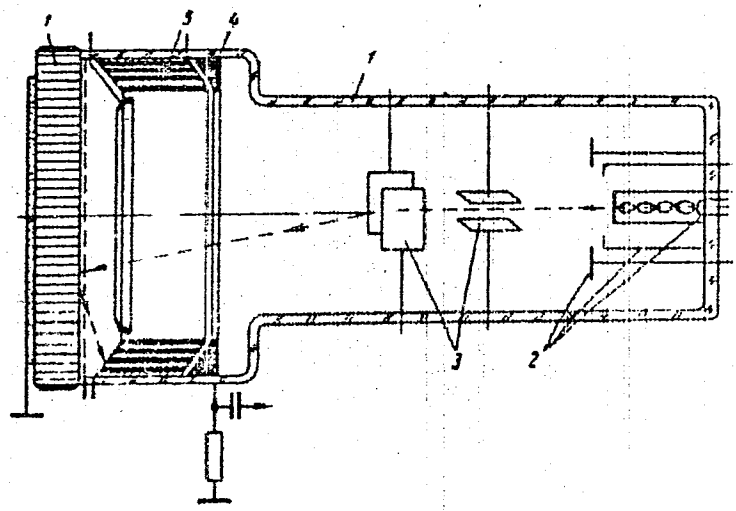
19770739

AA0044237



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19770740

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--POSSIBLE OCCURRENCE OF A DISTURBANCE IN THE INDEPENDENCE OF COMPOUND NUCLEUS DECAY FROM THE ENTRANCE CHANNEL SPIN -U-

AUTHOR-(04)-KARADZHEV, K.V., MANKO, V.N., NERSESYAN, A.N., CHURKREYEV, F.YE.

COUNTRY OF INFO--USSR

K

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(2), 88-92

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--COMPOUND NUCLEUS, NUCLEAR SPIN, ANGULAR DISTRIBUTION, RADIOACTIVE DECAY SCHEME, PARITY PRINCIPLE, NUCLEAR RESONANCE, PROTON BOMBARDMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0704 STEP NO--UR/0386/70/011/002/0088/0092

CIRC ACCESSION NO--AP0105678

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE ANGULAR DISTRIBUTIONS OF REACTIONS ON NUCLEI WITH NONZERO SPIN MAKE IT POSSIBLE TO VERIFY THE INDEPENDENCE OF THE DECAY MODE OF A COMPD. NUCLEUS ON THE ENTRANCE CHANNEL OF THE REACTION. THE CASE OF A WELL ISOLATED, SINGLE RESONANCE WITH AN ANGULAR MOMENTUM AND A PARITY J PRIMEPI IS CONSIDERED AS FOUND IN THE INTERACTION OF A N WITH A TARGET NUCLEUS HAVING SPIN I. IN THIS CASE, THE DIFFERENTIAL CROSS SECTION OF THE REACTION (A,B) IS AN INCOHERENT MIXT. OF 2 PARTS CORRESPONDING TO 2 ENTRANCE CHANNELS WITH THE SPINS I EQUALS MINUS ONE HALF AND I EQUALS PLUS ONE HALF. FROM THE INDEPENDENTLY MEASURED ANGULAR DISTRIBUTIONS OF A RESONANCE, THE EXACT PARAMETER OF SPIN MIXING T IS OBTAINED. ONE OF THE SIMPLEST CASES IS CONSIDERED; WHEN THE BOMBARDING PARTICLES ARE P, THE SPIN AND THE PARITY OF THE TARGET NUCLEUS IS ONE HALF PLUS, AND THE STATE OF THE COMPD. NUCLEUS HAS AN ANGULAR MOMENTUM AND A PARITY OF I MINUS. THIS STATE CAN BE CREATED ONLY BY THE CAPTURE OF P WITH AN ORBITAL MOMENTUM OF L SUBP EQUALS 1. IN THIS CASE, THE ORBITAL MIXING IN THE ENTRANCE CHANNELS OF THE REACTION IS ABSENT. IN THE REACTIONS (P,P), (P, ALPHA), AND (P,GAMMA) ON A PRIME31 P NUCLEUS, A SINGLE ISOLATED NARROW RESONANCE WAS FOUND THAT HAD A MOMENTUM AND A PARITY OF 1 MINUS AT AN ENERGY OF THE INCIDENT P OF 2114 KEV. DISCREPANCIES IN THE VALUES OF T SUBP, T SUBALPHA, AND T SUBGAMMA INDICATE THAT THE DECAY OF A COMPD. NUCLEUS MAY DEPEND ON THE ENTRANCE CHANNEL. FACILITY: INST. AT. ENERG. IM. KURCHATOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--POSSIBLE CASE OF VIOLATION OF THE INDEPENDENCE OF COMPOUND NUCLEUS DECAY OF THE INPUT CHANNEL SPIN -U-

AUTHOR-(05)-KARADZHEV, K.V., MANKO, V.I., PERSESYAN, A.N., CHUKREEV, F.E., KURCHATOV, I.V.

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 2, P. 88-92 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANGULAR DISTRIBUTION, NUCLEAR SPIN, COMPOUND NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1787 STEP NO--US/0000/70/011/002/0088/0092

CIRC ACCESSION NO--AP0133692

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE ANGULAR DISTRIBUTIONS OF REACTIONS ON NUCLEI WITH NONZERO SPIN UNCOVER NEW POSSIBILITIES OF VERIFYING THE INDEPENDENCE OF THE COMPOUND NCULEUS DECAY METHOD OF THE INPUT CHANNEL OF THE REACTTION. FACILITY: ATOMIC ENERGY INST., USSR.

UNCLASSIFIED

USSR

UDC 666.1.001.5

TSARITSYN, M. A., Candidate of Technical Sciences, PROSHKINA, A. I., Engineer, State Scientific Research Institute of Glass, KARADZHIYEV, A. G., Engineer, Baku Glass Plant

"Glass Types Which Absorb Heat Rays"

Moscow, Steklo i Keramika, No 11, Nov 70, pp 15-17

Abstract: In connection with the increased use of glass for the facing of building exteriors, the Soviet Union has embarked upon the production of heat-absorbing window glass. The Baku Glass Plant was picked to master the production of this type of glass. In the article are presented results of laboratory research on the development of compositions of heat-absorbing glass, and the technological parameters of the industrial production of heat-absorbing glass at the Baku plant. A comparison is made with glass of this type produced by foreign firms. 2 tables. 3 figures.

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USSR

UDC [537.226+537.311.33]:[537+535]

KARAGEORGIY-ALKALAYEV, P. M., and LEYDERMAN, A. YU.

"Deep Impurity Levels in Wide-Gap Semiconductors"

Glubokiye primesnyye urovni v shirokozonnykh poluprovodnikakh (cf. English above), Tashkent, "Fan," 1971, 204 pp, ill. 1 r. 15 k (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1215)

Translation: The monograph considers the influence of deep impurity levels on physical properties of wide-gap semiconductors (injection currents, radiation in the visible region of the spectrum, electroluminescence, etc.) as well as on operating characteristics of devices made thereof. A description is given of new effects first observed using these materials: luminescent waves, recombination instability, etc.

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USSR

UDC [537.226 + 537.311.33] : [537 + 535]

LEYDERMAN, A. Yu., KARAGEORGIY-ALKALAYEV, P. M., ISAMUKHAMEDOVA, M.

"Electroluminescence and Photoelectric Effects in Semiconductors With Cross-Impurity Recombinations"

Kiev, V sb. Elektrolyuminestsentsiya tverd. tel (Electroluminescence in Solids -- collection of works), Nauk. Dumka, 1971, pp 102-104 (from RZh-Fizika, No 11, 1971, Abstract No 11E1186)

Translation: Expressions are obtained for the rate of cross-impurity recombination in a semiconductor and for the extent of filling of the local levels forming a pair. It is shown that the lumen-ampere characteristic at various intervals of current density can be described by the power function $L \sim I^n$, where n = 1.3/2.2. When the concentration of the recombination pairs is large, the adhesion effect of the carriers becomes noticeable. Then, anomalous phenomena of the type of light and temperature quenching of the photoconductivity and of negative internal photo-effects arise. A necessary condition for the appearance of these phenomena is the reduction in lifetime of the free, unbalanced carriers under heat or external impurity bias lighting. Author's abstract.

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USSR UDC [537.226+537.311.33] : [537+535]

KARAGEORGIY-ALKALAYEV, P. M., LEYDERMAN, A. Yu.

"Resonance Photoelectric Excitation of Electroluminescence Waves in Semiconductors"

Kiev, V sb. Elektrolyuminestsentsiya tverd. tel (Electroluminescence in Solids -- collection of works), Nauk. dumka, 1971, pp 104-107 (from RZh-Fizika, No 11, 1971, Abstract No 11E1180)

Translation: It is shown that, in semiconductor structures, waves of electroluminescent intensity may arise -- luminescence waves (LW) connected with natural oscillation of the electric field intensity E and the unbalanced carrier density n. The latter are produced by the nonlinear dependence of the semiconductor structural parameters on the concentration n and the field E: the mobility of the current carriers, the dielectric permeability, the cross section of carrier capture by traps, etc. These effects are primarily linear. External light modulation of the semiconductor crystal can produce the phenomenon of forced oscillations of the electric field interacting with the field's natural oscillations and showing up as LW activity. Thus, the

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USSR

KARAGEORGIY-ALKALAYEV, P. M. et al, Elektrolyuminestsentsiya tverd. tel, Nauk. dumka, 1971, pp 104-107

action of sufficiently intense modulated light causes asynchronous quenching, the suppression of electric field natural oscillations and LW. Under certain conditions, resonance interaction of the field forced oscillations with its natural oscillations may occur in their action in LW, in particular. Investigation of the peculiarities of resonance activity uncovers the existence of typical nonlinear phenomena: discontinuous variations in the LW amplitude, with smooth frequency changes of externally modulated light, and the hysteresis effect of elongating the LW amplitude. The presence of local traps in the semiconductors strongly affects the conditions of natural oscillation of the LW and their peculiarities. Thus, to obtain steady-state LW, one must have a definite amount of trap-filling, the degree of which influences the intensity of the constant component I of the optically generated carriers. By changing the charge condition of the traps, it turns out that I also affects the amplitude of the steady-state LW. The shape of the LW resonance characteristic also varies in the presence of the traps, which shift it into the region of higher frequencies. Author's abstract.

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USSR UDC: None

KARAGEORGIY-ALKALAYEV, P.M., and LEYDERMAN, A.Yu.

"Kinetic Instability and Resonance Effects With Double Injection Into a Semiconductor"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, p 812

Abstract: Forced oscillations excited by modulated illumination of a semiconductor may interact with the field oscillations self-excited in a semiconductor with unequal electron and hole capture times when the drift and diffusion velocities are comparable. The possibility of the appearance of negative resistance and conductivity of diode structures containing shunting regions is considered. Also considered is the thermokinetic instability of the field concentration distribution.

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1/2 058 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--KINETIC INSTABILITY AND RESONANCE EFFECTS DURING DOUBLE INJECTION INTO A SEMICONDUCTOR -U-
AUTHOR-(02)-KARAGEORGIYALKALAYEV, P.M., LEYDERMAN, A.YU.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(4), 812

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--KINETIC ENERGY, SEMICONDUCTOR DIODE, PLASMA INJECTION, OSCILLATION, ELECTRIC FIELD, LIGHT MODULATION, RECOMBINATION RADIATION, WAVE PERTUBATION, PHOTODIODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1308 STEP NO--UR/0449/70/004/004/0812/0812

CIRC ACCESSION NO--AP0124959
UNCLASSIFIED

2/2 058 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0124959

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESONANCE EFFECTS BETWEEN SPONTANEOUS OSCILLATIONS OF ELEC. FIELD AND FORCED OSCILLATIONS GENERATED IN A SEMICONDUCTOR BY A MODULATED ILLUMINATION ARE CONSIDERED. THE EXISTENCE OF NEG. DIFFERENTIAL RESISTIVITY ACCOMPANIED BY LUMINESCENT RECOMBINATION RADIATION IN DIODE STRUCTURES WITH SHUNTING AREAS IS DISCUSSED. STRUCTURES HAVING RESONANCE AND RECOMBINATION EFFECTS CAN BE USED TO CONSTRUCT OPTO ELECTRONIC DEVICES WITH SELECTIVE PROPERTIES. THE THERMO KINETIC INSTABILITY OF ELEC. FIELD DISTRIBUTION WITH RESPECT TO LONG WAVE PERTURBATIONS IS CONSIDERED. FACILITY: FIZ.-TEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF TRAPS ON VOLT AMPERE CHARACTERISTICS OF A P,N,N PRIME POSITIVE DIODE DURING THE BIOMOLECULAR RECOMBINATION OF CARRIERS IN A

AUTHOR-(03)-KARAGEORGIYALKALAYEV, P.M., LEYDERMAN, A.YU., RABINOVICH, F.YA.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK UZB. SSR, SER. FIZ. MAT. NAUK 1970, 14(2), 47-52

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS

TOPIC TAGS--ELECTRON TRAP, VOLT AMPERE CHARACTERISTIC, RECOMBINATION COEFFICIENT, SEMICONDUCTOR DIODE, CARRIER DENSITY, HOLE MOBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1016 STEP NO--UR/0166/70/014/002/0047/0052

CIRC ACCESSION NO--AP0124675

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE RRAPS ON THE CURRENT VOLTAGE CHARACTERISTIC OF THE STRUCTURE IS STUDIED ON THE CONDITION THAT THE RECIPROCAL VALUE OF THE HOLE LIFETIME, TAU PRIME NEGATIVE1 SUBP, INCREASES LINEARLY WITH NONEQUIL. HOLE CONCN. WHEN BIMOL. RECOMBINATION TAKES PLACE. THE TRAPPING OF CURRENT CARRIERS CAUSES AN INCREASE IN TH EBIMOL. RECOMBINATION COEFF. AND THUS A DECREASE IN MIN. HOLE CONCN. WHEN ALL TRAPS ARE FILLED, THE BIMOL. RECOMBINATION WITH TAU SUBP EQUALS 1-BN BECOMES UNIMOL., WITH TAU SUBP EQUALS 1-BN SUBT, WHERE N AND N SUBT ARE CONCNS. OF CARRIERS AND TRAPS, RESP. FACILITY: FIZ. TEKH. INST. IM. STARODUBTSEVA , TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 577.3:591.111

MKHEYAN, V. YA., PAREYSHVILI, YE. A., and KARAGEZYAN, E. G., Radiobiology Department, Ministry of Health, Armenian SSR

"Changes Originating in Peripheral Blood and Spleen of Rats Under the Influence of Ruby Laser Rays on the Spleen"

Yerevan, Biologicheskiy Zhurnal Armenii, Vol 25, No 1, 1972, pp 28-35

Abstract: Experiments were conducted to study the quantitative and morphological changes in peripheral blood as well as morphological changes in the spleen under the direct influence of laser rays on hemopoietic organs (spleen). The spleen of 40 white rats were submitted to a single irradiation by a ruby laser (wavelength-6943Å, energy-3j/pulse, diameter of pencil ray-7mm, pulse duration-0.5 sec). Twenty control rats underwent surgery without irradiation. Twenty-five rats were examined for peripheral blood changes, 35 for morphological spleen changes. After an initial reference sample, blood samples were taken 1 hour, 1, 7, 15, and 30 days after irradiation. Five-micron microscopic sections were made of spleen samples. No visual changes in erythrocytes or hemoglobin were observed. All types of blood cells were briefly diminished 1 hour after irradiation, especially eosinophils, evidently connected with marked destructive changes of the spleen and perhaps the nerve-reflex factor.

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USSR

HKHEYAN, V. YE., et al., Biologicheskiy Zhurnal Armenii, Vol 25, No 1, 1972, pp 28-35

Number of leukocytes, absolute quantity of lymphocytes, monocytes, and basophils increased beginning with the 1sr day after irradiation, reaching a maximum on the 7th. On the 7th, 15th, and 30th days an increase in the quantity of all blood cells was observed, especially lymphocytes, corresponding to hemopoiesis evidenced by an increased quantity of lymph follicles and cell elements of red pulp. Hemopoiesis activity was also influenced by the destruction of blood cells in the area of direct radiation. An increase of young forms of lymphocytes (lymphopoiesis) in the spleen and mitosis of marrow cells was observed. According to the results of the experiment, laser rays a have a stimulating effect on the hemopoietic organs and peripheral blood beginning with the first day after irradiation.

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1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--VARIATIONS IN QUANTITATIVE CORRELATIONS IN BLOOD PHOSPHOLIPIDS FOLLOWING THE DEVELOPMENT OF EXPERIMENTAL THROMBOSES -U-

AUTHOR-(03)-KARAGEZYAN, K.G., OVAKIMYAN, S.S., MIRZAAVAKYAN, G.L.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 250-2

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD, PHOSPHOLIPID, THROMBOSIS, DOG, BLOOD COAGULATION, POTASSIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1664 STEP NO--UR/0020/70/191/001/0250/0252

CIRC ACCESSION NO--AT0133569

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133569

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPTL. THROMBOSIS IN DOGS IT WAS FOUND THAT WITHIN 2 DAYS OF ITS DEVELOPMENT THE SHIFTS IN THELEVEL OF PHOSPHOLIPIDS WERE CONSIDERABLE, ESP. IN THE APPENDAGE AFFECTED BY THROMBOSIS. THESE CHANGES, BESIDES INTRAVASCULAR THROMBOFORMATIONS AND LOCAL DISTURBANCES, INVOLVE NEUROHUMORAL SHIFTS. THE CHANGES IN THE CLOTTING OF THE BLOOD DEVELOP WITHIN 2 DAYS ALONG WITH ACTIVATION OF BLOOD CLOTTING IN BOTH LIMBS OF THE EXPTL. ANIMALS. LOWERED K IN FIBRINOGEN DEVELOPS IN THESE 2 DAYS AND MAY BE CAUSED BY REFLEX RISE OF ACID PHOSPHOLIPIDS IN THE BLOOD. FACILITY: INST. BIOKHIM., EREVAN, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--QUALITATIVE AND QUANTITIVE COMPOSITION OF PHOSPHOLIPIDS IN A STAPHYLOCOCCUS CULTURE -U-

AUTHOR-(02)-KARAGEZYAN, K.G., POGOSBENKOVA, S.D.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(1), 209-11

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STAPHYLOCOCCUS, CONTINUOUS CULTURE, PHOSPHOLIPID, BIOSYNTHESIS, PAPER CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1601 STEP NO--UR/0020/70/190/001/0209/0211

CIRC ACCESSION NO--AT0128991

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0128991

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PAPER CHROMATOG. WAS USED TO SEP. THE PHOSPHOLIPIDS OF STAPHYLOCOCCI (STANDARD NONPATHOGENIC STRAIN). THESE WERE IN DESCENDING AV. CONCN.: POLYGLYCEROPHOSPHATIDES, LYSOLECITHINS, SERINEPHOSPHATIDES, NONOPHOSPHOINOSITYLPHOSPHATIDES, LECITHINS, AND UNIDENTIFIED FORMS. NEUTRAL COMPDS. WERE APPROX. HALF THE CONCN. OF THE ACIDIC FORMS. FACILITY: INST. BIOKHIM., EREVAN, USSR.

UNCLASSIFIED

USSR

UDC 547.752+547.785.5

KARAGEZYAN, K. S., KHAZHAKYAN, L. V., GRIGORYAN, R. T., and TATEVOSYAN, G. T., Institute of Fine Organic Chemistry imeni A. L. Mndzhoyana, Academy of Sciences Armenian SSR (Yerevan) "Indol Derivatives. XXXVI. Derivatives of 3-(β-benzimidazolyl-2') ethyl indols"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 54-60

Abstract: The compounds 2-methyl-3-(β-benzimidazolyl-2')- and 2-methyl-3-(β-methyl-β-benzimidazolyl-2')-ethylindol were prepared for possible use in the pharmaceutical industry. The synthesis of intermediates is given together with melting points, calculated and experimentally determined composition, and IR and UV spectral data.

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Nitrogen Compounds

USSR

UDC: 542.91 + 547.759.4

RASHIDYAN, L. G., KARAGEZYAN, K. S., and TATEVOSYAN, G. T., Institute of Fine Organic Chemistry, Yerevan, Academy of Sciences Armenian SSR

"Isoindoline Derivatives. IV. bis-(5-chloro-cis-3a,4,7,7a-tetrahydroisoindolyl--2-methyl)-alkylamines"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 4, 1970, pp 387-389

Abstract: A mixture of 7.4 g 4-chloro-cis-1,2,3,6-tetrahydrophtalimide, 20 ml of 95% ethanol and 4 ml formaline was refluxed to a complete solution, 0.021 mole of primary amine was added and heated for another 15 min, cooled overnight, the product was extracted with ether, dried, evaporated and recrystallized from ether. Butyl, benzyl, and allyl derivatives of bis-(4-chloro-cis-1,2,3,6-tetrahydrophtalimidomethyl)-alkylamines were obtained in yields exceeding 80%, their melting points being 93-94, 85-86, and 134-135° respectively. These compounds were reduced over lithiumaluminum hydride to bis-(5-chloro-cis-3a,4,7,7a-tetrahydroisoindolyl-2-methyl)-alkylamines, boiling respectively at 145-150/5mm, 164-168/5mm, and 125-127/5mm.

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USSR

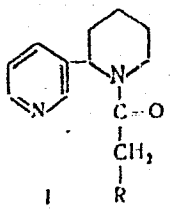
UDC 547.821+547.91

ARUTYUNYAN, L. S., TSATINYAN, A. S., AVAKYAN, O. M., KARAGEZYAN, S. G., SARAFYAN, V. G., and MNATSAKANYAN, V. A., Institute of Fine Organic Chemistry imeni A. L. Mndzhoyana, Academy of Sciences Armenian SSR (Yerevan)

"Modification of Alkaloid Structures. VI. Some N-substituted Anabazines"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 78-80

Abstract: Alkylhydroxyphenyl groups were substituted at the 2-, 3-, and 4-position of structures I, II, III, and IV.



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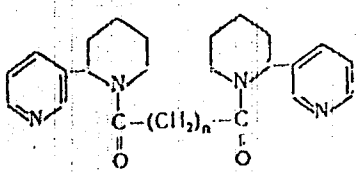
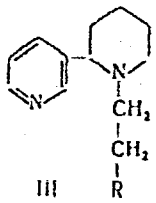


II

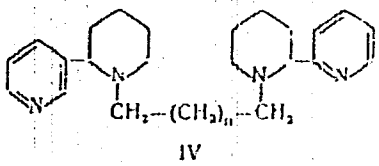
1/2

USSR

ARUTYUNYAN, L. S.,et al., Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 1, 1972, pp 78-80



III



IV

The products were separated and purified by thin-layer chromatography, and identified by their IR spectra. A table presents the values of $[\alpha]_D^{22}$, R_f, boiling point, and percent yield for all the compounds.

2/2

USSR

UDC 541.49:66.074.7

PETRZHAK, G. I., STEPANOVA, L. N., and KARAGO, L. V.

"Complexation in Solution Studied by Determination of Charge on Anionic Complexes, Using Ion Exchange"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 266-272

Abstract: Oxalates of uranium (IV), thorium, and neptunium(IV) and (V) were studied by investigating ions formed in solution. It was found possible to study complexation in solutions of complexes with K from 10^{-2d} to 10^{-3}. It was found in addition that the complexes $U(C_2O_4)_2 \cdot 6H_2O$ and $Th(C_2O_4)_2 \cdot 6H_2O$, isomorphous in the crystalline state, in aqueous solutions and in oxalic acid behave differently. Uranium oxalate in aqueous solution forms a mono-charged anion, but no anionic complexes were detected for thorium. The presence of free acids of composition $H_2Th(C_2O_4)_3$ and $H_4U(C_2O_4)_4$ in solution was established. It is shown that at concentrations of 10^{-3} to 10^{-4} M, U(IV), Th, and Np(IV) in oxalate solutions form tetra-charged saturated coordination complex anions $[Me(C_2O_4)_4]^{4-}$. No higher charged anions were detected in the solutions studied. A study was made of the behavior of $K_2U_2(C_2O_4)_5 \cdot 8H_2O$ in water and

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USSR

PETRZHAK, G. I., et al, Radiokhimiya, Vol 12, No 2, 1970, pp 266-272

of the behavior of solutions of HNO_3, $HClO_4$, $LiClO_4$, $H_2C_2O_4$, and $K_2C_2O_4$. It was established that in solution di- or tetra-charged complexes anions of proposed composition $[U(C_2O_4)_3]^{2-}$, $[U_2(C_2O_4)_5]^{2-}$, and $[U(C_2O_4)_4]^{4-}$ are formed as a function of solution concentration and composition.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--COMPLEXING IN SOLUTION STUDIED BY DETERMINING THE CHARGE OF ANION COMPONENTS BY AN ION EXCHANGE METHOD -U-

AUTHOR-(03)-PETRZHAK, G.I., STEPANOVA, L.N., KARAGO, L.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 266-72

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ION EXCHANGE, URANIUM COMPOUND, THORIUM COMPOUND, NEPTUNIUM COMPOUND, OXALATE, COMPLEX COMPOUND, ABSORPTION SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/B03 STEP NO--UR/0186/70/012/002/0266/0272

CIRC ACCESSION NO--AP0140238

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140238
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. U(IV), TH(IV), NP(IV), AND NP(V) OXALATES IN SOLN. WERE STUDIED BY DENT. OF THE CHARGE OF ANIONIC SPECIES BY AN ION EXCHANGE METHOD BY USING: SHOWN ON MICROFICHE.

UNCLASSIFIED

USSR

UDC 577.1:612.12.015

ROGATINA, L. N., KARAGODINA, A. M., and PANCHENKO, V. A.

"Urine Preservation in a System of Water Recovery From Urine"

V sb. Probl. kosmich. biol. (Problems in Space Biology -- Collection of Works), Vol 16, Moscow, "Nauka" (Science), 1971, pp 173-178 Russian) (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct 71, Abstract No 19F1536 from summary)

Translation: A study was made of 32 substances and combinations thereof for preservation of urine when stored for two weeks at 18-20°. Five formulas were investigated using apparatus for water recovery from urine in order to ascertain the feasibility of their application for urine preservation in this system. When urine is treated with a preservative, the condensate shows a decline in the amount of ammonia and total content of organic substances as compared with the condensate obtained on the evaporation of urine untreated with a preservative agent. The condensate met the requirements of the All-Union State Standard for drinking water in respect to microorganism content, clarity and odor. Slight additional purification using ion-exchange resins is required in order to obtain water meeting the All-Union State Standard requirements for drinking water in respect to physicochemical indicators.
1/1

USSR

KARACODINA, I., Chief of the Laboratory of the Moscow Scientific-Research Institute of Hygiene imeni F. F. Erisman, and OSIPOV, G., Deputy Director of the Scientific-Research Institute of Structural Phusics, Gosstroy SSSR [State Committee for Construction]

"Noise Must Be Controlled"

Moscow, Medistinskaya Gazeta, 7 Jun 72, p 2

Abstract: Because of increased horse power and speed of vehicular traffic, urban noise now reaches 80-90 decibels, and, being present 24 hours a day, is worse for man than industrial noise. A "noise map" of Moscow shows traffic conditions today, with an estimated 7-10 decibel increase for 1980-1990. On this basis plans for noise control measures and residential construction are made along three principal directions: Study of the sources of traffic and household noise, patterns of its distribution in areas of urban construction, and effect on the human body. Laboratories have been established operating with specialists in various fields, latest equipment, and methods for electrophysiological, biochemical and histological investigation. Studies were performed in the field (inhabited apartments, microregions, streets, hospitals, sanatoriums, and schools), on different age and occupation groups, as well as on animals. It was established that noise caused constant

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

USSR

KARAGODINA, I., et al., Medistinskaya Gazeta, 7 Jun 72, p 2

tension of the auditory analysor; the auditory threshold increased by 10-25 decibels; and an inhibitory process developed in the cerebral cortex, altering the conditioned-reflex function. Attention and efficiency, especially in mental work, and particularly in children, were lowered. The lack of rest after a day's work accumulates, resulting in disturbance of the central nervous system and hypertension. Constant noise causes ulcerative disease and gastritis through disturbance of the stomach's function. Noise norms have been established for residential housing and introduction of electric and steam-driven automobiles is being planned. Optimal planning methods for the building, greening, and zoning of urban areas are urged, with laws to be worked out through the combined efforts of hygienists, machine makers, architects and builders.

USSR UDC 613.633+613.648]:666.76

LEMYASEV, M. F., BABUSHKINA, L. G., SEMENOV, G. V., (Deceased), KATSNEL'SON, B. A., KARAGODINA, I. V., TREYGER, S. I., and BELOBRAGINA, G. V., Scientific Research Institute of Hygiene and Occupational Diseases, Medical Institute, Oblast Sanitary-Epidemiological Station, Sverdlovsk

"Dust and Radiation Factors in the Production of Fireproof Articles From Zirconium Dioxide"

Moscow, Gigiyena i Sanitariya, No 10, Oct 1970, pp 38-41

Abstract: Tests with rats confirmed that the fibrogenic character of "pure" ZrO_2 dust is lower than that of the commercial product. This difference is attributed to the admixture of radioactive elements in the dust of the insoluble commerical ZrO_2, which is used as raw material in the production of various fireproof objects, so that the fibrogenic action of this dust on the lungs is intensified. On the basis of data from this experiment and from studies in an industrial environment, it is recommended that maximum permissible concentrations of ZrO_2 dust and similar substances be established which taken into account the radioactive contamination present in these dusts.
1/1

USSR

PIL'SKIY, I. Ye., and KARAGODINA, V. I., Alma-Atinskaya Oblast Sanitary Epidemiological Station

"Bacteriological Studies at Regional Sanitary and Epidemiological Stations of Patients and Convalescents With Intestinal Infections"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 11, Nov 71, pp 11-13

Abstract: A comprehensive card file was started during 1969-70 in various regions of Alma-Atinskaya Oblast on all persons who have or have had intestinal infections. It contains personal information, a case history, and the results of all intestinal examinations regardless of the diagnosis or purpose. The results of all laboratory analyses are kept in separate files at the sanitary epidemiological stations and are made available to medical institutions. This system provides for systematic, detailed analyses of the extent and propriety of bacteriological studies, in order that proper measures may be taken. It reduces the time spent by epidemiologists in searching for necessary information, and frees bacteriologists from time-consuming paperwork.

1/1

USSR

UDC 621.375.82

IYEVLEVA, L. D., KARAGODOVA, T. Ya., KOVNER, M. A.

"Induced Raman Emission by Magnetic Sublevels of Atoms"

V sb. Nelineyn. protsessy v optike. (Nonlinear Processes in Optics--collection of works), Vyp. 2, Novosibirsk, 1972, pp 246-249 (from RZh-Fizika, No 12, Dec 72, Abstract No 12D374)

Translation: A study was made of induced Raman emission by the magnetic sublevels of atoms placed in a constant magnetic field H under conditions in whihc the high-frequency Stark shifts are less than the Zeeman splittings. The susceptibility for induced Raman emission on the Zeeman sublevels was calculated. The possibility of the appearance of new intercombination transitions in the atoms in the case of the Raman effect in a magnetic field and the possibility of smooth frequency tuning of the scattered light by the magnetic field are discussed.

1/1

USSR

UDC 577.4

KARAGODOVA, YE. A., MITSMAKHER, YU. D., BOSIS, A. I., SHIBRIK. L. V.

"An Algorithm for Optimal Distribution of Resources"

Vychisl. i prikl. mat. Mezhved. nauch. sb. (Computation and Applied Mathematics. Interdepartmental Scientific Collection), 1972, vyp. 16, pp 99-103 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V516)

Translation: A version of the R. Bellman method is discussed for optimizing the distribution of limited resources of a specialized construction organization. The computation flow chart of the algorithm and an example are presented.

1/1

Acc. Nr. AP0055624 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code UR 0460

112019f Kinetic principles of the bulk polymerization of styrene in the presence of trifluoroacetic acid. Nikolaev, A. F.; Belogorodskaya, K. V.; Dukhnenko, E. M.; Popova, L. V.; Burnkash, A. P. (Leningrad. Tekhnol. Inst. im. Lensoveta, Leningrad, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 24-7 (Russ). The polymn. rate (V) of $PhCH{:}CH_2$ (I) in PhEt contg. CF_3CO_2H (II) as the catalyst obeys the relation $V = k[\text{concn. II}]^a[\text{concn. II}]^b$ (k is a const.; temp., k in l. $mole^{-1}$ sec^{-1}, a, b, given): 0°, 9.7×10^{-4}, 1.5, 1.9; −10°, 3.2×10^{-4}, 1.2, 2.8; 20°, 18.7×10^{-4}, 2.2, 1.4. The activation energy is 9.6 kcal/mole. The decrease of a with temp. shows that the solvation of polystyrene ions with II decreases with the temp. The mol. wt. of polystyrene increases with the II concn. CPJA

VI

REEL/FRAME
19840926

USSR

UDC 612.014.46/049.3/

KARAKCHIYEV, N. I.

"On the Toxicology of Herbicides"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 2, 1973, pp 47-50

Abstract: The need for understanding the toxicology of highly toxic herbicides and herbicide poisoning treatment is obviated by the U.S. Army's extensive employment of such agents in South Vietnam. This literature review describes poisoning symptoms and treatment for some such agents: Dichlor- and trichlorphenoxyacetic acid derivatives, paraquat (gramosmon), trivalent arsenic compounds, tributylphosphate and tributylthiophosphate, dinitrophenol and dinitroorthocresol, and endothal.

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1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF SYNTHETIC FATTY ACID COMPOSITION ON THE PROPERTIES AND STRUCTURE OF LITHIUM LUBRICANTS -U-

AUTHOR-(04)-GUSAROVA, M.S., VAYNSHTOK, V.V., KARAKASH, S.I., KARTININ, B.N.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (3), 12-14

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FATTY ACID, ORGANOLITHIUM COMPOUND, GREASE, FLUID VISCOSITY, UREA, CHEMICAL STABILITY/(U)AU SPINDLE OIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1517 STEP NO--UR/0318/70/000/003/0012/0014

CIRC ACCESSION NO--AP0118504

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

2/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118504

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUBSTITUTION OF LI SOAPS OF THE N- AND ISOALKANOIC ACIDS IN A C SUB17-20 FATTY ACID FRACTION FOR LI SOAPS OF THE ORIGINAL FRACTION IMPROVED AND WORSENED, RESP., THE CONSISTENCY OF LUBRICANTS PREPD. BY DISPERSING 9PERCENT OF THE SOAP IN AU SPINDLE OIL AS INDICATED IN THEIR RESP. DROP POINTS, 200 AND 130DEGREES; COLLOIDAL STABILITIES, 10.4 AND 13PERCENT; YIELD STRENGTHS, 14, 21.6, 55.6 AND 2.1, 7.8, 32.3 AT 50, 0, AND MINUS 40DEGREES; AND EFFECTIVE VISCOSITIES, 8.2, 37.6, 110, 122, 626, 1500 AND 4, 17.2, 46.6, 79, 234, 218 P AT 1260, 50, AND 10 SEC PRIME NEGATIVE1 AT 0DEGREES AND AT THE SAME SHEAR VALUES AT MINUS 40DEGREES, RESP. WHEN THE ISOALKANOIC ACIDS WERE SEPD. BY EXTN. WITH SELECTIVE SOLVENTS RATHER THAN BY COMPLEX FORMATION WITH UREA, REMOVAL OF UNSAPONIFIABLE COMPDS. ALSO IMPROVED LUBRICANT QUALITY AND STABILITY. REMOVAL OF THE DICARBOXYLIC AICDS PRESENT (2.8PERCENT) IN A C SUB10-16 FATTY ACID FRACTION BEFORE PREPN. OF THE LI SOAPS AFFECTED THE LUBRICANT PROPERTIES VERY LITTLE. LI SOAPS PREPD. FROM THE FORMER DISPERSED TOO POORLY FOR LUBRICANT PREPN.

FAICLITY: MIN-KHGP IM. GUBKINA, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 629,13.014.69-506.4

KARAKASHEV, V. A. and YEMEL'YANTSEV, G. I., Leningrad Institute of Precise Mechanics and Optics

"On the Analysis of Errors in a Coupled Inertial Navigation System"

Leningrad, Priborostroyeniye, Vol 16, No 5, 1973, pp 75-80

Abstract: The system receives information from absolute angular velocity sensors for the continuous calculation of a matrix of direction cosines which determine the orientation of the axes of the object in which the system is mounted. Errors occur due to inaccuracy of the original settings, variation in the sensitive elements, computational errors, simplifications in the algorithm, etc. All the processing errors can be reduced to equivalent inaccuracies in the primary information. The errors are analyzed for a vehicle moving in level horizontal flight over a spherical earth surface. It is shown that the system has the same sort of errors as an inertial navigation system in which the gyro-stabilized platform carrying the accelerometers simulates some moving coordinate system. A peculiarity of the coupled system is the presence of additional errors due to vehicle roll and inaccuracies in the computer.

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KARAKASHEV, V.A.

Inertial Navigation systems

CAROL

(2)

JPRS 59688

2 August 1973

UDC 623.13.014.69-506.4

Inertial Navigation Systems

ANALYSIS OF THE ERRORS OF GIMBALLESS INERTIAL NAVIGATION SYSTEM

[Article by V. A. Karakashev and G. I. Temel'yanov, Leningrad, Institute of Precision Mechanics and Optics; Leningrad, Izvestiya vuzov, Priborostroyeniye, Russian, No 5, 1973, recommended by the Chair of Gyroscopic Instruments and Devices, signed to press 5 December 1972, pp 75-80]

In this article an analysis is given of a connected (gimballess) inertial navigation system with the use of kinematic equations of errors. Analytical expressions are derived for the errors of the system under consideration in the generation of navigational information.

We will consider a gimballess inertial navigation system (INS)*, using information from pickups of absolute angular velocity for continuous calculation of the matrix of the guiding cosines $B = \| b_{ij} \|$ ($i, j = 1, 2, 3$), determining the orientation of the axes $x_c y_c z_c$, rigidly connected with an object relative to a horizontal system of coordinates with the geographical orientation $E h N$ (drawing).

The algorithm for generation of the navigational information in the INS under consideration, intended for an object moving on a horizontal plane along the surface of a spherical Earth, may be presented in the following form:

* The idea of a gimballess INS and one of the algorithms of its functioning was proposed by L. I. Tkachev in 1943 [1].

[I - USSR - G]

KARAKASHEV, V.A.

10: JPRS 59254
12 June 73

UDC 629.13.014.69-506.4

GENERALIZED EQUATIONS OF ERRORS IN INERTIAL NAVIGATIONAL SYSTEMS

[Article by V. A. Karakashev, Leningrad Institute of Precision Mechanics and Optics; Leningrad, Izvestiya VUZ, Priborostroyeniye, Russian, No 3, 1973, pp 87-93]

This article gives the equations of errors in inertial navigational systems in the processing of navigational information on the movement of an object as a function of errors in the analog which model the inertial and horizon systems of coordinates; the vector differential equations are given for the errors in the modeling analogs.

The coordinates of the location of an object are analyzed by inertial navigational systems on the basis of determining the angular orientation of the vertical of the site relative to the selected inertial navigational system of coordinates. For objects moving over the Earth's surface, or near it, it is natural to determine the location in a certain terrestrial navigational system of coordinates. In the computer device of the inertial navigational system the information concerning the movement of the object relative to the inertial system of coordinates is converted into information relative to the terrestrial system [1]. Thus, in the inertial navigational system by means of mechanical and analytical analogs three previously selected coordinate systems are modeled: horizon, inertial, and terrestrial.

Let us find the equations for errors in the inertial navigational system in the analyses of navigational parameters of a moving object as a function of errors in the analogs of the coordinate systems to be modeled. Let the vertical C_H

UDC 612.84-612.766.1

USSR

NAVAKATYKYAN, O. O., KUNDIYEV, Yu. I., LYSYNA, G. G., BUZUNOV, V. P., HRYSHKO, F. I., DERKACH, V. S., KAPSHUK, O. P., KYRYENKO, A. Ye., KARAKASHYAN, A. N., KOVAL'OVA, G. I., RATUSHNA, A. M., TOMASHEVC'KA, L. I., NAGORNA, A. M., and MAYDYKOV, Yu. L., Kiev Institute of the Work Hygiene and Occupational Diseases, Kiev

"Nervous Emotional Stresses as a Problem of Modern Work Physiology"

Kiev, Fiziolohichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 535-546

Abstract: The introduction of machines and automatic control instrumentation into production lines at plants and factories and at many other institutions requires of workers rapid coordination of actions combined with mental activity. The volume of information input which requires a combination of physical and mental ability has been increasing tremendously for the last decade. This has produced nervous and emotional stresses and disturbances in the normal functions of many human organs. Analysis of many workers from various branches of industry as well as people occupied with mental work has shown that modern technology imposes heavy stresses on an individual which are accompanied by abnormal function of the adrenal glands, and hypothalamus, and the hypophysial and sympathoadrenal systems. Measurements have shown that corticosteroid blood and urine

(10)

USSR

NAVAKATYKYAN, O. O., et al., Fiziolohichnyy Zhurnal, Vol 18, No 4, Jul/Aug 72, pp 535-546

levels exceed the norm by as much as 42-57% in people under heavy stress. Emotional stress with distortion in the function of many systems were more often encountered among the young (17-18 year olds). These malfunctions included the secretion of adrenalin and noradrenalin, and disturbances in hemodynamics. Shifts in physiological functions among different occupational groups under identical stresses occur at different times and are closely related to age. They were more pronounced among older people (31-40 years old). The cardiovascular system occupies a prominent place in labor physiology, and there are many methods and approaches to study it. Some literature methods and those of the authors are described, including instrumentation. Mental work which is accompanied by nervous-emotional stresses influences profoundly the cardiovascular system within a wide range of deviations, including pathological functional disturbances and hypertension. The same is true for other occupations as well. The authors recommend the rational use of working hours and rest periods to avoid overstresses.

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1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ON THE SCALE OF PRACTICAL APPLICATION OF THE RESULTS OF SCIENTIFIC RESEARCH -U-
AUTHOR--KARAKAYEV, K.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA, AUGUST 18, 1970, P 3, COLS 1-4

DATE PUBLISHED--18AUG70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--MINING ENGINEERING, METAL ORE, SOLID MECHANICS, SCIENTIFIC BUDGET, SCIENTIFIC RESEARCH, RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1896 STEP NO--UR/9012/70/000/000/0003/0003

CIRC ACCESSION NO--AN0125497
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AN0125497

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CITING THE COMMON NATURE OF MINING INDUSTRIES OF THE KIRGIZ, UZBEK, TADZHIK, AND TURKMEN REPUBLICS, THE AUTHOR PROPOSES THAT THE ACADEMY OF SCIENCES OF THE KIRGIZ REPUBLIC, SPECIFICALLY ITS INSTITUTE OF ORE PHYSICS AND MECHANICS, BE GIVEN THE OPPORTUNITY OF DOING RESEARCH PROJECTS NOT ONLY FOR ITS OWN REPUBLIC BUT FOR THE ENTIRE CENTRAL ASIA. THE PRESENT SYSTEM OF APPROVING RESEARCH PROJECTS FAVORS PROJECTS DONE FOR THE LOCAL (REPUBLICAN) INDUSTRY, AND THE "OUTSIDE" PROJECTS FIND LITTLE SUPPORT. THE STATE COMMITTEE FOR SCIENCE AND TECHNOLOGY, U.S.S.R., AIDS REPUBLICAN ACADEMIES IN EXPANDING THE MOST PROMISING RESEARCH PROGRAMS BY ALLOCATING ADDITIONAL FUNDS. THE AUTHOR BELIEVES THAT THESE FUNDS WOULD BE SPENT MORE EFFICIENTLY IF THE COMMITTEE WERE ALSO TO SPECIFY PROJECTS THAT ARE OF IMPORTANCE TO MORE THAN JUST ONE REPUBLIC OR ARE OF IMPORTANCE TO THE ENTIRE COUNTRY. THE BEST SOLUTION IN HIS OPINION WOULD BE FOR THE MINISTRIES TO REVIEW ANNUALLY THE PROPOSALS OF REPUBLICAN ACADEMIES, AND TO ABANDON THE CURRENT PRACTICE OF GIVING THE PREFERENCE TO PROJECTS TO BE DONE BY THEIR INSITUTES. THE ARTICLE ALSO ATTACKS THE PRESENT DAY PRACTICE OF CUTTING DOWN BUDGET ALLOCATIONS TO INSTITUTES AND LABORATORIES WHICH ARE EXPANDING THE VOLUME OF CONTRACTUAL RESEARCH. THE AUTHOR ALSO URGES HIGHER BONUSES TO BE PAID TO ACADEMIC WORKERS THAN THE PRESENT 2-3 PERCENT OF THE SALARY.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

Ion Exchange

USSR

UDC 541.183:661.183.6

VLASOVA, O. A., IONE, K. G., KARAKCHIYEV, L. G., and PLYASOVA, L. M., Institute of Catalysis, Siberian Department, Academy of Sciences SSSR

"Influence of Machining on Grain Size and Crystalline Structure of Type NaY Zeolites"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972, pp 534-536

Abstract: The possible change in the size of the zeolite particles with mechanical working was studied, as was the effect of the intensity of mechanical grinding on the grain size and crystal structure of the zeolites. An original sample and samples ground for 1, 2, 3, and 4 hours were studied. The surface area, as determined by the BET method using argon, decreased from 620 m^2/g for the unground sample, NaY, to 40 m^2/g for the sample ground for 4 hours, NaY-4. The surface areas calculated from electron micrograph data show an increase from 2.3 for NaY to 16.5 m^2/g for NaY-4. The latter was calculated from the equation $S = 6/\rho d$ where ρ is the density of the zeolite, equal to 2 g/cm^3; d is the average radius of the particles, obtained from a radius distribution curve. The radius decreased from 1.3 for NaY to 0.18 μ for NaY-4. In x-ray studies the very marked fine structure exhibited by NaY was

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USSR

VIASOVA, O. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, 1972, pp 534-536

much reduced for the sample ground for 1 hour, NaY-1, and absent for Na-4. The total intensity was also much reduced, indicating decreasing crystallinity with increasing grinding time. The IR spectrum of NaY-4 between 1400 cm^{-1} and 300 cm^{-1} was much smoother and showed much greater absorption than that for NaY, although the peak positions were similar for all the spectra. The data obtained indicate that grinding induces changes in the crystal structure and adsorption capacity of NaY type zeolites.

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1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--INFRARED SPECTROSCOPIC STUDY OF THE INTERACTION BETWEEN BENZALACETOPHENONE AND THE SURFACE OF SILICATE CATALYSTS -U-

AUTHOR-(02)-KARAKCHIYEV, L.G., KOTSARENKO, N.S.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(2), 513-18

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, ACETOPHENONE, BENZENE DERIVATIVE, CATALYST, SILICA GEL, ALUMINUM SILICATE, MAGNESIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0095 STEP NO--UR/0195/70/011/002/0513/0518

CIRC ACCESSION NO--AP0132368

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132388

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADSORPTION OF BENZALACETOPHENONE ON SILICA GEL, SI-MG, AND AL-SI CATALYSTS WAS STUDIED BY IR SPECTROSCOPY. THE CHANGE OF ABSORPTIVITY WITH TIME FOR THE 1660 CM PRIME NEGATIVE1 (MINUS CO SUB2 PRIME NEGATIVE) BAND WAS THE SAME FOR EACH CATALYST BUT THAT FOR 1610 CM PRIME NEGATIVE1 (VIBRATION OF C SUB6 H SUB6 RING) BAND CHANGED WITH THE CATALYST. THE STUDY REVEALS THAT OH GROUPS OF CATALYST SURFACE DO NOT PARTICIPATE IN THE FORMATION OF ACIDIC CENTERS AND, THUS, IN IONIZATION OF THE ADSORBED BASE. FACILITY: INST. KATAL., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC 620.179.1

KARAKHANOV, L. M., and KHACHATUROVA, O. A., All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev, Tbilisi Branch

"Nondestructive Methods of Determining Elastic and Strength Characteristics of Fiber-Glass Reinforced Plastics"

Sverdlovsk, Defektoskopiya, No 2, 1971, pp 77-83

Abstract: A review is presented with an analysis of nondestructive methods of determining moduli of normal elasticity, moduli of rigidity, and strength properties of fiber-glass reinforced plastics. It is recommended that research work on strength determination of plastic materials by nondestructive methods be concentrated on the application of the discussed impulse method which makes it possible to rate the change of physico-mechanical properties of fiber-glass reinforced plastics even after their being affected by high temperatures, radiation, aggressive media, and other factors. From a formula developed by the authors, strength characteristics of specimens and constructions of fiber-glass reinforced plastics can be calculated with an experimental degree of accuracy.

1/1

USSR

UDC: 621.382.333.3.001.5

KARAKHANYAN, E. R., NOSOV, Yu. R., SHILIN, V. A.

"Time-Lag Analysis of the MDS-Transistor"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 856-862

Abstract: Processes of charge behavior in the channel of the MDS-transistor are analyzed for the case of switching by a powerful signal. An equation is derived which describes the high-voltage characteristics of the MDS-transistor with regard to modulation of the charge of the substrate and electrode mobility. The equation is analyzed on a digital computer, and the results are presented in the form of curves for actuating time as a function of the dopant concentration in the substrate and the voltages across the electrodes. The results of the analysis show that accounting for the effects of charge modulation and electrode voltage mobility doubles the actuating and cutoff time. Analytical expressions are found for evaluating the actuating time of the MDS-transistor. The results of this work can be used to determine the frequency limit of the transistor and to evaluate the effect of the inherent time lag of the device on transient processes in high-speed circuits.

1/1

USSR UDC 681.327.67

KARAKHANYAN, E. R., Moscow Institute of Electronic Machine Building

"A Memory Element Based on MOS Transistors"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 25, Soviet Patent No 277856, class 21, filed 2 Apr 69, published 5 Aug 70, p 44

Translation: This Author's Certificate introduces a memory element based on MOS transistors. The device contains storage and load transistors. As a distinguishing feature of the patent, the energy dissipated during data storage is reduced by connecting a capacitor between the gate and sink of each load transistor.

UDC 632.95

USSR

BRYZGALOVA, N. I., GAVRILOVA, T. B., GOLOVKIN, G. V., KARAKHANYAN, L. L.

"Soviet Carrier Porochrome-1 for Gas Chromatographic Analysis of Pesticides"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryaz-neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp 38-43 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N418)

Translation: It is demonstrated that the Soviet carrier porochrome-1 inoculated with hexamethyldisilazane can replace the foreign carrier chromosorb W when analyzing pesticides by the gas chromatographic method with an electron capture detector.

1/1

KARAKHANYAN, R.A.

Selected Translations of Metallurgy JPRS 58611 30 Mar 73 - from Fizika Metallov i Metallovedeniye Vol 34, #6, 1972

UDC 620.17:539.25

EFFECT OF VARIOUS COMBINATIONS OF AGING AND DEFORMATION ON THE STRUCTURE AND MECHANICAL PROPERTIES OF EI437B ALLOY

N. N. Buynov, A. I. Uvarov, A. N. Uksusnikov, R. R. Romanova, R. A. Karakhanyan, and M. G. Gaydukov, Institute of the Physics of Metals, Ural Scientific Center of the USSR Academy of Sciences, submitted to press 18 June 1971; final version, 18 February 1972 pages 1251-1258

The effect of deformation performed after low-temperature aging before high-temperature aging on the structure and mechanical properties of alloy EI437B was studied. Experimental data confirming the possibility of decreasing or preventing recovery in this alloy by means of moderate deformation between low-temperature and high-temperature agings were obtained. It was established that the use of treatment according to the following scheme: hardening--low-temperature aging--deformation (straining)--high-temperature aging leads to an essential increase of the mechanical properties in comparison with aging without deformation.

In reference [1] the conclusion made earlier [2] that preliminary low-temperature aging before high-temperature aging must be effective in increasing the mechanical properties of alloys of the nimonic type was experimentally confirmed. In these alloys the initial nuclei of the precipitation phase have an equiaxial form and are capable of a noticeable growth at low-temperature aging. Also, prolonged aging at low temperatures increases the stability of the nuclei (or the Guignet-Preston zone) and their larger quantity is preserved in subsequent high-temperature aging. Such double aging provides a large dispersivity of the precipitations and high strength properties in comparison with the dispersivity and strength of the alloy aged at an increased temperature. However, the minimum on isothermic curves of hardness in high-temperature aging testifies that a

considerable part of the G. P. zones [1] or the metastable nuclei [1] during recovery are dissolved or change their composition even in a case of prolonged preliminary low-temperature aging [4, 5]. According to data in reference [6], in EI437B alloy in recovery 34% of the precipitation phase is dissolved.

We may assume that if we prevent recovery in the transition from low-temperature aging to high-temperature aging, then we will obtain alloys with more dispersed precipitations and greater strength. According to references [7--9], the effect of plastic deformation on the G. P. zones and the metastable coherent or partially coherent precipitations is manifested in the fact that part of the nuclei may be dissolved, and part stabilized. For example, the G. P. zones may shift to metastable precipitation. At moderate deformations, the effect of the solution of the nuclei may be insignificant in comparison with the effect of stabilization. Having increased the stability of the nuclei, we may prevent or decrease recovery if the alloys are strained after low-temperature aging before high-temperature aging. Aside from this, recovery may be decreased because of the appearance of new nuclei due to the ones dissolved during deformation.

In this work we set ourselves the problem of studying the effect of deformation between low-temperature and high-temperature aging on the structure and mechanical properties of alloy EI437B.

The structure of the alloy was investigated by the fine-foil electron-microscopic method. Measurements of hardness according to Vickers were performed, also measurements of the ultimate strength and yield points, elongation and compression. Heat treatment of the alloy consisted of annealing at 1080°C for eight hours and cooling in the air. In the interval of aging of 600--850° the specimens were cooled at a rate of 100° per minute. The aging was accomplished at 700 and 850°. After different variations of heat treatment the specimens were strained by rolling, basically by 20%.

Figure 1. Hardness of alloy EI437B in isothermic aging at 850°: (1) after preliminary aging at 700° for ten hours and straining by 20%; (2) after preliminary straining by 40% and aging at 700° for ten hours; (3) after aging at 700° for ten hours. (a) time, min.

USSR

UDC 669.017:669.018:559.570

BUYNOV, N.N., KARAKHANYAN, R.A., ROMANOVA, R.R., BULYCHEV, D.K., and RODIONOV, K.P., Institute of Metal Physics, Academy of Sciences USSR

"Distribution of Strain in Metals and Alloys After Hydroextrusion"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 2, Feb 71, pp 304-310

Abstract: By electron microscopy and measurements of hardness it was shown that strain distribution in different metals and alloys, deformed by hydroextrusion, is substantially different and that for each material there should exist an optimum magnitude of friction on the surface of contact between the die and sample which provides a uniform distribution of strain along the transverse cross section of a hydroextruded part. The dislocation structure of tungsten and VM1 molybdenum, deformed to different degrees by a two-stage hydroextrusion process, was studied. Increase in the strain rate for tungsten and use of double extrusion for VM1 molybdenum provides produces a cellular structure with exceptionally small cells (down to 0.3 microns. This is particularly true when a very high rate of deformation is applied (100,000 mm/sec). 4 figures, 1 table, 14 bibliographical references.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EFFECT OF THE TEMPERATURE GRADIENTS ON THE INTENSITY OF X RAY REFLECTIONS -U-

AUTHOR-(03)-NAVASAROYAN, M.A., KARAKHANYAN, R.K., BEZIRGANYAN, P.A.

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA, 1970, 15(2), 235-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--X RAY DIFFRACTION, TEMPERATURE GRADIENT, QUARTZ CRYSTAL, SILICON SINGLE CRYSTAL, POTASSIUM COMPOUND, HYDROGEN COMPOUND, PHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1751 STEP NO--UR/0070/70/015/002/0235/0239

CIRC ACCESSION NO--AP0125369

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125369

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF THE TEMP. GRADIENT OF THE INTENSITY OF X RAY DIFFRACTION MAX. WAS INVESTIGATED TO STUDY HOW THEY DEPEND ON THE THICKNESS AND ABSORPTION OF THE REFLECTING CRYSTAL (MU T), ON THE MAGNITUDE AND DIRECTION OF THE TEMP. GRADIENT, AND ON THE INTERPLANAR DISTANCES OF THE REFLECTING PLANES OF CRYSTALS OF QUARTZ, SI, KH SUB2 PO SUB4, AND NH SUB4 H SUB2 PO SUB4 IN THE FORM OF THE PLANE PARALLEL THIN DISKS OR PLATES. THE MEASUREMENTS WERE CARRIED OUT UNDER CONDITIONS OF ANOMALOUS OR ORDINARY TRANSMISSION OF X RAYS FOR WHICH THE VALUE OF MU T WAS VARIED BY CHANGING THE CRYSTAL THICKNESS OR THE WAVELENGTH. IN GENERAL, THE INTENSITY OF THE REFLECTIONS DEPENDS ON THE MAGNITUDE AND DIRECTION OF THE TEMP. GRADIENT. AT SMALL VALUES OF MU T (ANOMALOUS DISPERSION BEING ABSENT), THE REFLECTION INTENSITY DUE TO THE GRADIENT INCREASES. AT MEDIUM MU T (0.5 SMALLER THAN MU T SMALLER THAN 15) THE REFLECTION INTENSITY CAN EITHER INCREASE AND DECREASE DEPENDING ON THE POSITION OF THE DIFFRACTION VECTOR (B) AND GRADIENT VECTOR (S). A GREAT MU T THE REFLECTION INTENSITY DECREASES DUE TO THE GRADIENT. THE INFLUENCE OF THE TEMP. GRADIENT INCREASES AS THE INTERPLANAR DISTANCE OF THE REFLECTION PLANES DECREASES. FROM THE POINT OF INFLUENCING THE REFLECTION INTENSITY, THE LINE DISLOCATION IS EQUIV. TO 2 TEMP. GRADIENTS DIRECTED AGAINST EACH OTHER.

FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

USSR

UDC: 62-55

KOLESNIKOV, K. D., ABROSIMOV, A. A., and KARAKOZOV, B. M. /Kuybyshev Polytechnical Institute/

"Method of Searching for Extremum of Inertialless Objects"

USSR Author's Certificate No 289397, filed 12 July 68, published 2 Feb 71 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1971, Abstract No. 12A154P)

Translation: The invention deals with means of automatic control, especially with extremal control systems (ECS). It may be used when high accuracy is required to find the extremum in the presence of noise at the object output where the object is inertialess and has a symmetrical extremal characteristic. The known method of finding the extremum of inertialess objects with symmetrical extremum characteristics is realized with constant search velocity which is the reverse of the remembered extremum and with the search system switched out as the extremum is approached. The defect of this method is the low search accuracy, caused by the necessary distance from the extremum to the reverse zone magnitude. It should be noted that the greater the reverse zone, the better the relation between the useful signal and the noise: i.e., the greater the error in the extremum search, the higher the noise immunity. The proposed method differs from the known method in that the reverse zone is chosen from the signal/noise ratio condition;

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USSR

UDC: 62-55

KOLESNIKOV, K. D., et al, USSR Author's Certificate No. 289397

in the first pass through the extremum, the time taken by the system to move from the extremum point to the reverse point is remembered while the search through the remembered time interval is switched out with the movement of the system in the reverse direction. The sign of the input quantity for the inertialess object having a symmetrical extremal characteristic is formed by the extremum recollection method; motion in the system stops at the moment the extremum point is passed, after the second reverse, in the system's return to the extremum. The choice of reverse zone guarantees the system the required noise immunity, and the switch-out at the extremum point provides for high search accuracy. Resume

2/2

USSR UDC 669.71

KARAKOZOV, E. S., and SHABALIN, I. N., Moscow

"Om the Kinctics of Nickel Oxidation"

Moscow, Fizika i Khimiya Obrabotki Materialov, No. 5, Sep-Oct 71, pp 121 —124

Abstract: The kinetic orinciples of high- and low-temperature oxidation of nickel in an oxygen atmosphere are discussed. The oxidation rate of Ni, characterized by the magnitude of its parabolic constant of the oxidation rate k_n , is at elevated temperatures mainly affected by the contact of admixtures of manganese and iron which depends on their diffusion mobility in the oxide layer. Based on previous experimental data and investigations of the authors, a correlation function was derived (correlation coefficient 0.97) for temperatures of 1,000 °C and the oxygen pressure of 150 tor, binding k_n with the contents of Mn and Fe in the 10^{-4} — 1.0 % by wt. concentration interval. The dependence

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USSR

KARAKOZOV, E. S., and SHABALIN, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 71, pp 121-124

of k_n on Mn and Fe contents and the kinetic oxidation process of Ni by 150 tor oxygen pressure and temperatures between 300 and 550 °C, and proceeding in four conventional stages are shown. From temperature dependences of these stages, the temperature transition interval from the development of thin oxide films to the development of diffusion layers (temperature interval 420—600 °C) can be determined. Five illustr., 11 biblio. refs.

2/2

USSR K UDC 621.791.1

ABRAMOV, V. V., KARAKOZOV, E. S., and PETROV, V. A., Moscow

"Kinetics of Compound Formation in Welding in the Solid State by Static and Cyclic Loading with Heating"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 70, pp 107-113

Abstract: Formation of a compound in solid-state welding, when the driving forces are temperature and pressure, occurs at active centers by plastic deformation in new main stages: 1) formation of physical contact, and 2) activation and chemical reaction. This process can be represented as a chemical reaction due to which energetically stable configurations of electrons belonging to unexcited atoms deep in the solid form between atoms of the uniting surfaces. In bringing together surfaces being united, each of which has no oxide layer, but has a multiatomic chemically absorbed layer of ambient environment atoms, for example, oxygen (i.e., consists of an electrically neutral adsorption complex (Me-O)), at some distance equilibrium of molecular (van der Waals) forces of repulsion and attraction will be established. Processes ensuring these conditions for solid-state welding, when the total energy level of the system of surface atoms rises via thermal and mechanical activation, can be: 1) Surfacing into the physical contact zone of crystal lattice defects. Energy freed when defects surface can prove adequate for rupture of bonds in the Me-O complexes in the region adjoining the defect surfacing

USSR

ABRAMOV, V. V., et al., Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 70, p pp 107-113

site. 2. Thermal fluctuations, resulting in the metal atom at some moment in time acquiring energy adequate for breaking the bonds with oxygen. An important consequence of plastic deformation behavior for materials to which cyclic external loads are applied is that any variation in the rate of plastic deformation of the materials being combined during their solid-state welding by pressure with heating must vary the rate of buildup of physical contact and conditions for activation of atoms of the surfaces being combined.

2/2

Public Health, Hygiene and Sanitation

USSR UDC 616.9-036.21+576.8+614.47:061.3(574) "1970"

KARAKULOV, I. K., REMENTSOVA, M. M., ZHUMATOV, KH. ZH., MAKIROV. K. A., and NIKONOVA, T. N.

"Results of the First Combined Congress of Epidemiologists, Microbiologists, Specialists in Infectious Diseases, and Hygienists of Kazakhstan"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971, pp 134-137

Abstract: The above congress, held in Alma-Ata in June 1970, was attended by about 1000 persons who read over 400 papers on intestinal infections, brucellosis, tularemia, tuberculosis, leptospirosis, helminth diseases, and blood-sucking flies. Most were concerned with particularly widespread diseases in the Kazakh SSR. Several dealt with the epidemiology and control of acute intestinal infections (M. M. Yakovleva et al.), reduction of the incidence of typhoid fever in Alma-Ata Oblast (B. V. Rayushkin et al.), epidemiological geography of intestinal infections (E. P. Ka'yanova and I. A. Yalyshev), incidence of typhoid fever (B. V. Rayushkin et al.), seasonality of typhoid fever (. I. G. Kozhukhov), dysentery in Kazakhstan during the last 10 years (TE. K. Ruaaina and Ye. A. Cuzoyev), epidemiology and prevention of leprosy in the Aral Sea region (Ch. A. Abdirov), diphtheria in Kazakhstan (K. A. Kostina), epidemiology of salmonellosis (P P. Popova et al.). Papers on brucellosis and tularemia included clinical and epidemiological

USSR

KARAKULOV, I. K., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 12, 1971, pp 134-137

observations in brucellosis foci after suspension of specific vaccination compaigns (Ye. A. Shnyreva and N. F. Zenkova), brucellosis and economic considerations (S. I. Rybalko), epidemiology of brucellosis (K. D. Zhalilov et al.) epizootiology and epidemiology of tularemia from the ecological and faunistic standpoint (V. I. Pakin et al.), combined natural foci of different diseases - tocoplasmosis, brucellosis, Q fever (S. A. Andreyev), leptospirosis Kazakhstan (I. P.Chernykh). One paper was read on the control of blood-sucking flies in Kazakhstan (. N. S. Zhuk). There were many reports on the clinical aspects of infectious hepatitis, brucellosis, measles, dysentery, and some other diseases.

Acc. Nr. AP0105554 Abstracting Service: CHEMICAL ABST. Ref. Code UR0449

126618n Magnetodiodes made from nickel-doped silicon. Karakushan, E. I.; Kovarskii, V. Ya.; Komarovskikh, K. F.; Kruzhanov, Yu. V.; Stafeev, V. I. (USSR). *Fiz. Tekh. Poluprov.* 1970, 4(3), 628–30 (Russ). *S*-diodes were prepd. from Ni- and P-doped Si from the melt. The semi-insulating *n*-type Si platelets had a resistivity of 2 kilohm-cm, a thickness of 480–660 μ, and a diam. of the *p-n* junction of 150 μ (it was formed by the diffusion of evapd. Al); the 2nd contact was alloyed Au + Sb. The sensitivity to a magnetic field was characterized by the dynamic current (I) magnetosensitivity, $\gamma_I = \partial I/\partial H|_{U_a - R_L - U_s}$ where U_a is the source voltage, R_L the load resistance, and H the magnetic field strength. The H dependence of γ_I had a sharp max., which increased with increasing U_a and decreasing R_L. The max. γ_I at room temp., with U_a = 13 V and R_L = 80 ohms, was 60 mA/kOe in a field of 1.3 kOe. The switching coeff. (ratio of the current without field to that in a field) was 70–250. The voltage magnetosensitivity, γ_U, increased with increasing I and increasing H. In a field of 5 kOe at I = 10 mA, γ_U = 6 V/kOe.

Peter Vajda

REEL/FRAME
19880569

USSR

UDC 576.858.095.383

BEKTEMIROVA, M. S., KARAKUYUMCHYAN, M. K., and POLKOVNIKOVA, V. YA., Moscow Scientific Research Institute of Virus Preparations

"Individual Features of Interferon Production Induced by Pyrogenal in Randombred and Purebred Mice"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 608-611

Abstract: Wide variations were observed in interferon titers in mice 2 hrs after intravenous injections of 10 mcg of sterile pyrogenal. By dividing the results into 4 groups of titers of less than 20, 20-80, 160-320, and 1,280 the following percent distributions of mice were obtained: randombred -- 12, 34, 37, and 17; BALB line - 4, 59, 37, and 0; A line -- 0, 43, 41, and 16; and CC57Br line -- 0, 41, 41, and 18. Even though the distribution span among purebred rats is smaller, the difference is not significant. As a comparative study, Newcastle disease virus was administered 2 weeks prior to or after injection of pyrogenal. No correlation was found between the interferon titers induced by these two agents. It is suggested that there are individual variations in the number of antibody-producing cells and that different agents have different mechanisms of action and act on different types of cells.

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USSR

VAGABOV, R. M.-A., and KARAKUYUMCHYAN, M. K.

"Inactivation of Fixed Rabies Virus With Hydroxylamine"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 494

Translation: It was demonstrated that it is possible to inactivate fixed rabies virus with hydroxylamine without destroying immunogenic properties. The best results are obtained by inactivation in a 1 M hydroxylamine solution pH 7.8, at a temperature of 22°C, for 96 hr.

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USSR

UDC: 577.4

KARAKUYUMCHYAN, K. M.

"Concerning a Method of Analyzing the Resistance of a Finite Automaton to Random Malfunctions"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railway Transportation Engineers), 1971, vyp. 395, pp 214-221 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V303)

[No abstract]

1/1

USSR

UDC: 51.6

KARAKUYUMCHYAN, K. M.

"On a Method of Analyzing Combination Logic Nets"

[Tr.] Mosk. in-ta inzh. zh.-d. transp. ([Works] of the Moscow Institute of Railway Transportation Engineers), 1971, vyp. 391, pp 189-192 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V627)

[No abstract]

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USSR UDC 616.988-056:576.858.095.383

SOLOV'YEV, V. D., BEKTEMIROV, T. A., KARAKUYUMCHYAN, M. K., and BEKTEMIROVA, M. S., Chair of Virology, Central Institute for Advanced Training of Physicians, and Moscow Scientific Research Institute of Virus Preparations

"Correlation between Individual Interferon Production and Susceptibility to Certain Viral Infections"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 70, pp 419-423

Abstract: Individual resistance to disease is apparently congenital and is a function of the ease with which the body is able to activate its defenses against infection. Studies on interferon production in rabbits and mice revealed marked differences in resistance among individuals of the same species. Serum interferon titers ranged from 1:4096 to 1:4,000,000 in rabbits and from less than 1:400 to 102,400 in mice. Mice of the A, CC57BR, and BALB/c lines also exhibited individual peculiarities in serum interferon, but unlike randombred animals, most of the mice of the same line produced equal amounts of interferon. The strongest producers were the CC57BR mice and the weakest the BALB/c mice. An inverse relationship was noted between the intensity of interferon production and susceptibility to rabies fixed virus and Western equine encephalitis virus. The weakest interferon producers, the BALB/c line, proved to be the most sensitive to these viruses. The most active producers, the CC57BR line, were the least susceptible. The randombred and A line mice occupied a middle position with respect to both interferon production and susceptibility to the viruses.

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1/3 013 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--ALPHA-(DITHIOCARBOXY)AMINO ACID AS MASKING REAGENTS -U-

AUTHOR-(04)-BUSEV, A.I., BYRKO, V.M., KOVTUN, N.P., KARALASHVILI, L.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 237-42

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SULFUR COMPOUND, AMINO ACID, HYDROGEN SULFIDE, CARBON DISULFIDE, COPPER COMPLEX, COBALT COMPLEX, METAL COMPLEX COMPOUND, PHOTOMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0925 STEP NO--UR/0075/70/025/002/0237/0242

CIRC ACCESSION NO--AP0113760

UNCLASSIFIED

2/3 013 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113760

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. N-(DITHIOCARBOXY-N-METHYLGLYCINE DI-NH SUB4 SALT (I), A DI-NH SUB4 SALT OF N-(DITHIOCARBOXY)SARCOSINE, WAS SYNTHESIZED AND SUGGESTED FOR MASKING OF A NO. OF ELEMENTS OF THE H SUB2 S AND (NH SUB4) SUB2 S GROUPS. I IS PREPD. BY ADDING CS SUB2 TO AN AQ.-AMMONIACAL SOLN. OF SARCOSINE. NONREACTED CS SUB2 WAS EXTD. WITH PHME, ETOH WAS ADDED TO CRYSTALLIZE I, DECOMP. 139DEGREES, SOL. IN H SUB2 O, LESS SOL. IN ALC. AND CHCL SUB3. I REACTS WITH CU(II) IN A 2:1 RATIO TO FORM A COLORED COMPLEX WITH MAX. ABSORBANCE AT 440 M MU, WITH NI(II) IN THE SAME RATIO WITH A MAX. AT 350 M MU. CO REACTS WITH I IN A 1:3 RATIO; THE COMPLEX HAS MAX. ABSORBANCE AT 320 M MU. ZN(II), GA(III), CR(III), MG(II), SB(III), AS(III), NB(V), AND W(VI) DO NOT FORM PPTS. OR COLORED COMPLEXES WITH I. A COMPLEXOMETRIC METHOD WAS DEVELOPED FOR THE DETN. OF GA WITH 4-(2,PYRIDYLAZO)RESORCINOL (II) AT PH 2-3. CD, IN, AND BI ARE MASKED WITH I AND DO NOT INTERFERE IN THE DETN. AL, BA, CA AND MG DO NOT INTERFERE. NEUTRALIZE THE SOLN. WITH M NAOH, ADJUST TO PH 2-3 WITH N HOAC, THEN ADD A 25 FOLD EXCESS OF I COMPARED TO THE ELEMENT THAT INTERFERES, 2-3 DROPS OF II AND TITRATE WITH COMPLEXON III FROM RED TO YELLOW. A PHOTOMETRIC METHOD WAS DEVELOPED FOR THE DETN. OF GA WITH II WITHOUT SEPN. OF IN. ADJUST THE SOLN. CONTG. GA AND IN TO PH 3.25 WITH AN NH SUB4 OAC BUFFER, ADD 1 ML 5PERCENT AQ. I, THEN 1.25 ML II, AND DIL. TO 25 ML WITH THE BUFFER. MEASURE THE ABSORBANCE PHOTOMETRICALLY BY USING A GREEN FILTER. AN EXTN. PHOTOMETRIC METHOD WAS DEVELOPED FOR W DETN. WITH RHODAMINE B (III); MO INTERFERENCE IS ELIMINATED BY MASKING WITH I.

UNCLASSIFIED

3/3 013 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113760

ABSTRACT/EXTRACT--ADD TO THE SOLN. CONTG. W AND MO 15 ML 0.15N HCL, 20-30 MG I, AND 5 ML 0.1PERCENT III SOLN. EXT. W WITH 2 SO ML PORTIONS OF CHCL 3. COMBINE THE EXTS., WASH TWICE WITH 15 ML 0.15N HCL AND AGAIN EXT. WITH 5 ML CHCL SUB3. DIL. THE COMBINED ORG. LAYERS TO 100 ML WITH ISOAMYL ALC. AND DET. PHOTOMETRICALLY BY USING A NO. 4 FILTER.

FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PSEUDOSYRINGOMYELITIC ACROPATHY -U-

AUTHOR--KARALITSKIY, YE.M.

K

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 6, PP 72-76

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALCOHOLISM, TOXICITY, NERVOUS SYSTEM, SPINAL CORD, CLINICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0064 STEP NO--UR/0206/70/000/006/0072/0076

CIRC ACCESSION NO--AP0133934

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0133934
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ZONES OF INTENSIVE WINE MAKING, PATIENTS WITH PERFORATING ULCER OF THE FOOT ARE FOUND AMONG PERSONS SUFFERING FROM CHRONIC ALCOHOLISM. FORMERLY THESE LESIONS WERE CONSIDERED TO BE MANIFESTATIONS OF SYRINGOMYELIA WITH INVOLVEMENT OF THE LOWER PART OF THE SPINAL CORD. STUDIES BY BUREAU, BARRIERE, POPOV, SOYANOV AND OTHERS HAVE PROVEN THAT PSEUDOSYRINGOMYLITIS ACROPATHY IS A DISEASE ASSOCIATED WITH A PECULIAR ALCOHOLC TOXICITY AND AFFECTION OF THE PERIPHERAL NERVOUS SYSTEM. THE AUTHOR PRESENTS HIS OWN OBSERVATIONS OF 12 PATIENTS AND EPICRISIS OF 3 CASES. THE ROLE OF CHRONICAL ALCOHOLOC TOXICITY AND OTHER UNFAVOURABLE FACTORS IN THIS DISEASE IS EMPHASIZED AND POSITIVE EFFECT OF TREATMENT WITH GENERAL RESTORATIVE AND STIMULATING MEDICINES UNDER CONDITION OF THE HOSPITAL IS DESCRIBED.
FACILITY: RESPUBLIKANSKIY KOZHNO-VENEROLOGICHESKIY DISPANSER, MOLDAVSKOY SSR.

UNCLASSIFIED

USSR UDC 577.1:612.12.015

RAZBASH, M. P., and KARAL'NIK, B. V.

"Investigation of Phosphate Antigens of Rhizobacteria. Report I. Detection and Determination of the Activity and Specificity of Phosphatides of Rhizobacteria"

Zh. mikrobiol. epidemiol. i immunobiol. (Journal of Microbiology and Immunobiology), No 2, 1973, pp 89-94 (English Resume)(From RZh-Biologicheskaya khimiya, No 12, Jun 73, Abstract No F 1631)

Translation: It was found that phosphatide antigens possessing hemosensitive activity are to be found in diphtherial rhizobacteria. Phosphatides of rhizobacteria of certain serotypes possessed a strictly typical specificity in experiment aimed at the cross-suppression of hemagglutination and cross inhibition and the phosphatides of serotypes 1.3 and 5 proved to be very close to the antigen specificity.

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USSR

DMITROVSKAYA, T. I., MASLOVA, L. M., KARAL'NIK, R. V., and SHAMARDIN, V. A., Chair of Infectious Diseases, Alma Ata Medical Institute and Chair of Infectious Diseases, Alma-Ata Institute for the Advanced Training of Physicians, Department of Immunology, Kazakh Institute of Epidemiology and Microbiology

"The Indirect Hemagglutination Reaction in Diagnosing Protracted and Chronic Forms of Salmonellosis"

Alma-Ata, Zdravookhraneniye Kazakhstana, No 11, 1971, pp 21-23

Abstract: Serological studies were made on 137 persons who presented pathological changes in internal organs following salmonellosis. The indirect hemagglutination reaction(IHR) was considered positive when total antibody activity was not lower than 1:200, and the 7S level was not lower than 1:40. Protracted infection was defined as that lasting up to 3 months; chronic, as that lasting over 3 months. The diagnosis for 30 persons was protracted salmonellosis (stomach disorders); 24 showed positive IHR. Chronic salmonellosis (digestive and hepatobiliary disorders) was diagnosed in 72 persons, 50 of whom showed positive IHR. A relationship was established between clinical manifestations of the disease and positive IHR, even in cases of subclinical or latent forms, where the symptoms were absent or vague. A relationship was also found between the severity of the disease in the acute period, severity of clinical manifestations, and degree of subsequent antibody activity. 1/1

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--A NEW METHOD OF STUDYING ADHESION OF FILLINGS -U-

AUTHOR--KARALAIK, C.N., VLASOVA, N.K.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 1, PP 22-25

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DENTAL MATERIAL, ADHESION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1979/0677 STEP NO--UR/0511/70/049/001/0022/0025

CIRC ACCESSION NO--AP0047182

UNCLASSIFIED

Acc. Nr: AP0047182 Ref. Code: UR 0511

PRIMARY SOURCE: Stomatologiya, 1970, Vol 49, Nr 1 , pp22-25

D. M. Karalnik, N. K. Vlasova – A NEW METHOD OF STUDYING ADHESION OF FILLINGS

Summary. A study of the character and value of binding between fillings and dental tissues is one of the pressing problems in therapeutic stomatology. The authors propose a simple method of determining the adhesion of fillings to dental tissues. The referred to method enables to obtain a distinct comparative characteristics for different materials and to shorten the gap between tests and actual conditions of using dental fillings.

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REEL/FRAME

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UDC 621.377.622.322.4 181.48 620.179.152

KARAL'NIK, N. A., ORLOV, G. N., et al.

"X-ray-Defectoscopy of Ferrite Plates for Memory Devices"

Elektron. Tekhnika. Nauch. - Tekhn. Sb. Microelektronika [Electronic Technology. Scientific-Technical Collection. Microelectronics], No 5 (26), 1970, pp 51-56 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B135 by TR)

Translation: A method is studied for x-ray defectoscopic testing of cast ferrite plates for memory units. Theoretically calculated and experimentally tested transmission modes for the RUP-22-20-5 x-ray device are presented for 2 standard sizes of plates made of 1.3 VT material. A graph of exposures is presented for ferrite plates up to 10 mm thick, allowing optimal modes of exposure to be selected for various flat ferrite parts. This method allows reduction of the % of rejection during the casting process and allows secondary utilization of the dross, thus increasing the economic effectiveness of group production of integrated ferrite memory elements. Recommendations are presented for application of the method for testing of various integrated ferrite elements. 4 figs, 3 biblio refs.

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AA0051843

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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236541 MAGNETIC MEMORY SYSTEM is constructed from perforated ferromagnetic plates and has row and column lines, selecting and discharging lines which are connected. Its output has low signal to interference ratio. Therefore, to improve this system, it is proposed to divide discharging lines of each plate into the sections, selection lines are halved, one half is passed through the holes of one section and the other half through the holes of the other section. At the same time one section of the discharge winding is connected in series and the other in opposition, these form the arms of the compensating bridge. In fig. 1 is shown the winding of the ferrite plate. In fig. 2 is shown principal module with selection lines.

22.3.67 as 1142912/18-24.H.A.KARALNIK et alia. (9.7.69) Bul 7/3.2.69. Class 21a. Int.Cl. H03k

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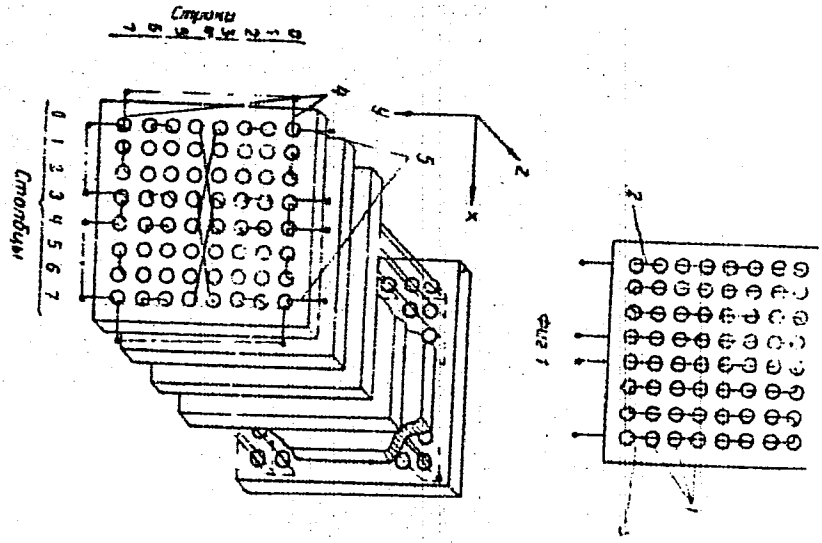

Authors: Karal'nik, N.A.; Fatkulin, R.Z.; Zakharov, A.A.

19820268

Nuclear Science and Technology

USSR

KARALOVA, Z. K., FALEY, P. N., IVANOV, R. N., GABESKIRIA, V. YA., and [illegible]ENKOVA, Z. I.

"Investigation of Protactinium and Uranium Accumulation by Thermal Neutron Irradiation of Th^{230} and Th^{232}"

Moscow, Akademiya Nauk SSSR, Atomnaya Energiya, Vol 28, No 3, Mar 70, pp 199-201

Abstract: An investigation was made to determine the accumulation of protactinium and uranium isotopes, and the burn-up of thorium isotopes during the irradiation of specimens with an isotope ratio $Th^{230}/Th^{232} = 1.462$ by a 1×10^{15} neutron/cm^2 . sec flux of thermal neutrons. The experimental procedure and technique are described in detail. It is shown that 3.5% of the original Th^{230} was transformed into Pa^{231} by the irradiation of the thorium specimen with a 1.462 isotope ratio for 10 periods of 24 hours each by a 1×10^{15} neutron/cm^2 . sec flux of thermal neutrons. The isotope ratio Th^{232}/Th^{230} increased from 1.464 to 1.557, which is connected to the more rapid burn-up of Th^{230} than of Th^{232}. The effective radiation capture cross sections of Th^{230}, Pa^{231}, and U^{232}, calculated from the experimental data are 75.5± 12, 280, and 170 barns, respectively. The obtained results were used to calculate the Pa^{231} accumulation for a given

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USSR

KARALOVA, Z. K. et al, Atomnaya Energiya, Vol 28, No 3, Mar 70, pp 199-201

Th^{230} in suspension as a function of integral neutron flux. The maximum Pa^{231} yield at a 1×10^{15} neutron/cm^2 · sec thermal neutraon flux density after 100 effective periods of 24 hours was about 26%. Orig. art. has: 3 figures, 1 table, and 4 references.

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1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EXTRACTION OF ACTINIUM AS ITS COMPOUND WITH 1,PHENYL,3,METHYL,4,BENZOYLPYRAZOLONE,5 -U-

AUTHOR-(03)-KARALOVA, Z.K., PYZHOVA, Z.I., RODIONOVA, L.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM.; 25: 909-13 (MAY 1970)

DATE PUBLISHED----MAY70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLVENT EXTRACTION, ACTINIUM, BENZENE, PYRAZOLE, BENZENE DERIVATIVE, ORGANOMETALLIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1178 STEP NO--UR/0075/70/025/000/0909/0913

CIRC ACCESSION NO--AP0138193

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138193

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACTINIUM CAN BE QUANTITATIVELY EXTRACTED AS ITS COMPOUND WITH 1,PHENYL,3,METHYL,4,BENZOYLPYRAZOLONE,5 BY A MIXTURE OF BENZENE AND OCTYL ALCOHOL FROM SOLUTIONS WITH PH 2.6. EXTRACTION OF ACTINIUM WAS STUDIED AS A FUNCTION OF PH, THE REAGENT CONCENTRATION, THE NATURE OF THE SOLVENT, THE PHASE CONTACT TIME. CONDITIONS WERE FOUND FOR SEPARATING ACTINIUM FROM RADIUM THORIUM, LEAD, AND BISMUTH ISOTOPES. THE YIELD OF ACITINIUM IF 90PERCENT.

FACILITY: INST. OF GEOCHEMISTRY AND ANALYTICAL CHEMISTRY, MOSCOW.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

USSR

SAMSON, A. M.; KARAMALIYEV, R. A.

"Variation of the Radiation Frequency in the Quasi-Stationary Oscillation of Dyes"

Minsk, Zhurnal Prikladnoy Spektroskopii; January, 1971; pp 45-52

ABSTRACT: The authors propose a method of calculating the variation of the radiation frequency in the quasi-stationary oscillation of dyes, with the use of nonselective mirrors, caused by the accumulation of particles on a metastable level. The spectral bands of the molecules of the dye are assumed to be uniformly broadened. The calculations are based on the rate equations. The general scheme of calculation is illustrated by the solution of this problem as applied to a dye with Gaussian curves for the absorption and emission. The dependence of the oscillation frequency shift on the loss factor, the absorption coefficient of the unexcited dye, and the pumping power is studied.

The article includes 44 equations and 4 figures. There are 9 references.
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USSR

SAMSON, A. M.; KARAMALIYEV, R. A.

"Determination of the Oscillation Mode of Dyes with a Constant Radiation Frequency"

Minsk, Zhurnal Prikladnoy Spektroskopii; November, 1970, pp 793-804

ABSTRACT: The kinetics of the single-frequency oscillation of dyes is studied. The totality of particles with a metastable level and uniformly broadened spectral bands is taken as the model of the active substance. Based on the rate equations for the populations and the radiation density, a study is made of the oscillation of dyes for various transition probabilities, concentration of active molecules, different values of the loss factor, and different pumping powers and frequencies. The radiation characteristics in a quasi-stationary oscillation mode are determined, and conditions for its realization are explained. Conditions for the occurrence of peak oscillation are studied and formulas for calculating the pulsation frequency and their decrement of damping are derived. The possibility of oscillation with average levels of pumping of a short radiation pulse, on the order of one nanosecond, readily distinguishable against a background of quasi-stationary oscillation is predicted theoretically.

The analytical calculations are illustrated by the solution of the original equations on an electronic computer.

The article includes 4 figures and 38 equations. There are 19 references.

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1/2 042 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF TWO PHOTON TRANSITIONS ON THE FREQUENCY AND THRESHOLD OF TWO FREQUENCY GENERATION -U-

AUTHOR-(03)-APANASEVICH, P.A., BANKOVSKIY, A.S., KARAMALYEV, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, MAR. 1970, P. 419-424

DATE PUBLISHED----MAR 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LASER RADIATION, LASER POWER OUTPUT, LINE BROADENING, FREQUENCY CHARACTERISTIC, LINE SPLITTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1025 STEP NO--UR/0368/70/012/000/0419/0424

CIRC ACCESSION NO--AP0107539

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002201210019-3"

2/2 042 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107539

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CALCULATION OF THE FREQUENCY AND THRESHOLD OF TWO FREQUENCY GENERATION IN MEDIA WITH HOMOGENEOUS AND INHOMOGENEOUS LINE BROADENING, ON THE BASIS OF THE EXACT SOLUTION TO THE PROBLEM OF THE EFFECT OF LASER RADIATION IN ONE CHANNEL ON THE AMPLIFICATION FACTOR IN ANOTHER. THE CONDITIONS UNDER WHICH GENERATION IN THE SECOND CHANNEL OCCURS AT THE CENTER FREQUENCY ARE DETERMINED. IN THE PRESENCE OF A FAIRLY HIGH POWER OUTPUT IN THE FIRST CHANNEL, GENERATION IN THE SECOND CHANNEL NEAR THE THRESHOLD MUST CONSIST OF TWO COMPONENTS, THE FREQUENCIES OF WHICH ARE DISPLACED FROM THE CENTER OF THE AMPLIFICATION LINE. IT IS SHOWN THAT SPLITTING OF THE AMPLIFICATION LINE UNDER THE ACTION OF THE RADIATION LEADS TO AN INCREASE IN THE THRESHOLD OF TWO FREQUENCY GENERATION IN COMAPRISON WITH THE THRESHOLD CALCULATED WITHOUT TAKING TWO PHOTON TRANSITIONS INTO ACCOUNT. INHOMOGENEOUS LINE BROADENING CONSIDERABLY ATTENUATES THIS EFFECT.

UNCLASSIFIED

1/2 068 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THEORY OF TWO-FREQUENCY LASERS -U-

AUTHOR-(02)-BANKOVSKIY, A.S., KARAMALIYEV, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(2) 217-22

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LASER PUMPING, GAS LASER, QUANTUM MECHANICS, RADIATION EFFECT, NONLINEAR EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1798 STEP NO--UR/0368/70/012/002/0217/0222

CIRC ACCESSION NO--AP0054632
UNCLASSIFIED